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Survey of Non-Supervisor Factory Type Job Evaluation Plans Used by Manufacturers in the Chicago Metropolitan Area Employing Over 1,000 Persons

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SURVEY OF NON-SUPERVISORY FACTORY TYPE JOB EVALUATION PLANS USED BY MANUFACTURERS IN THE CHICAGO METROPOLITAN AREA EMPLOYING OVER 1,000 PERSONS

by

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LIFE

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CHAPTER I

INTRODUCTION

Many studies have been conducted to determine which motivating factors are most important to job satisfaction.[1] Employees especially place a high value on steady employment, good supervision, pleasant working conditions, suitable geographical locations[2] or similar motivating factors.[3] We do know from the results of these studies that the wage rates to be paid for jobs is one of the factors which is ranked comparatively high in importance to job satisfaction.

Since wage rates to be paid for jobs are ranked high in importance, it is apparent that wage policy proposes to compensate for the various jobs in a plant according to its worth.[4] If the contribution of jobs is not adequately measured in relationship with all other jobs in a plant, wage inequities are bound to occur. We know that wage inequities causes friction among workers, between management and workers and even between the ranks of management itself.[5]

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[1]Richard C. Cabot, What Men Live By. (Boston, 1914), pp. 27-28, and S.N.F. Chant, "Measuring the Factors that Make a Job Interesting," The Personnel Journal. XI, (June 1932), p.3.

[2]Dale Yoder, Personnel Principles and Policies. (New York, 1952), p.411.

[3]Cabot, pp. 27-28.

[4]Yoder, p. 411.

[5]Jay L. Otis, and Richard H. Lenkart, Job Evaluation. (Englewood Cliffs, New Jersey, 1954), pp. 4-7.

Wage inequities are caused by various factors. When a wage structure is based on the workers' needs, tradition, and personal characteristics such as race, color, creed, sex, age, and nationality, wage inequities will result. This valuation is based on personal prejudices rather than justice.[6] To this day no wage system has been found to eliminate all inequities although the number of inequities are said to have been greatly reduced by installing more systematic methods of pricing jobs. This technique of pricing jobs is known as "job evaluation."[7]

Purpose--It is now widely recognized that job evaluation is a means for establishing the relative worth of jobs with respect to wage and salary administration. The purpose of this study was to find certain information to determine the extent of factory-type job evaluation plans used by large manufacturers in the Chicago Metropolitan Area. Other significant objectives were to obtain information regarding the types of factory-type job evaluation plans used, the number and type of factors, the weights assigned to these factors, the number of grades, the methods used in securing job data, the extent of participation in wage surveys, the responsibilities and title of those administering job evaluation activity, and the special problems job analysts are confronted with in administering the job evaluation plan.

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[6]Yoder, pp. 412-415.

[7]Statement (on job evaluation), Verna Fisher, "What is Right About Job Evaluation", Industrial Management Society Clinic Proceedings. (Chicago, Illinois, 1958), p. 84.

It was not the intention of the author to offer this manuscript as a panacea for job evaluation nor was it intended to serve as an addition to the large volume of text books currently existing on the subject. A review of many sources of material on the subject reveals that for the most part, the principles and methods of sound wage administration have not significantly been altered from the pioneering stage. Most books on job evaluation differ only in their method at arriving at the same conclusion. For those who are interested in job evaluation, the author suggests reading several of the primary books listed in the bibliography at the end of the thesis. Selected periodical articles will serve as a refresher.

Definition of Terms--A job is the collection of duties, tasks, and responsibilities which are assigned to an individual employee.

Job evaluation is a systematic method of determining the relative value of an individual job in relation to other jobs in the organization.

In this thesis the word "survey" is used to mean the extent with regard to application.

Wage rates refers to the amount of money paid per unit of time.

Earnings refer to the product of wage rates and employment.

An inequitable wage is one which is either higher or lower than the accepted range for the job.

Job classification is an orderly assignment of similar jobs into classes or grades which are recognizably different.

Job description consists of the written job characteristics, requirements, responsibilities, conditions, skills, duties, personal qualifications, and other essential facts which distinguishes the nature of the job.

The Chicago Metropolitan Area is often referred to in this thesis as the Chicago Area. As defined by the Bureau of Census, it includes the counties of Cook, DuPage, Kane, Lake and Will in Illinois, and Lake in Indiana.

Salary-type (office) workers refer to employees commonly paid for longer intervals of time. They are commonly paid at weekly or monthly intervals. Clerical, professional, or supervisory employees are usually salary-type workers.

Factory-type (shop) jobs are those other than office which directly influence the manufacture of a product. In some companies factory-type jobs are referred to as hourly rated jobs (as opposed to salary rated jobs).

A key job is one which management and union agree is properly paid and is common to the area.

CHAPTER II

A REVIEW OF THE FOUR BASIC JOB EVALUATION SYSTEMS

Job evaluation systems--Generally speaking there are two major job evaluation methods in effect, the nonquantitative and the quantitative method. These methods have been explained in great detail by authorities and practioners of wage and salary administration. The following is a summary of these methods.

The nonquantitative method--The nonquantitative method consists of the "job-ranking" and "grade-description" systems. This method is generally used when the group of jobs to be rated is homogeneous or is composed of relatively simple levels of duties, responsibilities and requirements.[8]

The ranking method--The ranking system is sometimes referred to as "the departmental order-of-importance method", "the order-of-merit method"[9] and "the card-sorting system." Charm states,

> "Job ranking is like sorting a suit of cards and putting them in order from the deuce (lowest value) to the ace (highest value). The analyses are read, discussed, shuffled, until they are stacked in the proper order - and then the prices reviewed and adjusted until they are in the same order, job for job."[10]

All that is required is to have each supervisor rank the jobs within their departments from most important to least important. Normally, a central

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[8] Elizabeth Lanham, Job Evaluation. (New York, 1955) pp. 46-47.

[9] Otis, pp. 69-70.

[10] Summer D. Charm, Wage Policy for Management. (New York, 1949) pp. 68-69.

committee will then be responsible for coordinating these rankings and grouping the jobs in grades or classes in order of difficulty.[11]

Otis indicates five steps in preparing a job-ranking procedure for use. First, prepare a job analysis, description, and title; secondly, choose the raters and select the jobs to be evaluated within their natural divisions, i.e., factory-type and salary-type jobs; third, rank the jobs using cards or the paired-comparison method; fourth, rank the jobs statistically; and fifth, integrate departmental rankings.

The job-ranking system is simple to use, requires less time to evaluate jobs than the other methods,[12] can be performed rapidly and is relatively inexpensive to install. The ranking system has, however, many serious disadvantages. Among these are: it is difficult to find raters with sufficient knowledge to rank all jobs in a work unit; raters will often tend to rank jobs by titles only; no specific or concrete standards exist for determining the relative rank; rankings may be superficial because the jobs are not broken down into their component parts or factors,[13] and raters will use different bases for their judgments, that is, they fail to keep the whole job in mind and are influenced by factors such as the present wage rates, quality of persons on the job, prestige value in the organization, and the jobs he knows

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[11] Otis, pp. 69-70

[12] Ibid, pp. 70-82.

[13] Lanham, p. 42.

most about.[14]

The grade-description method—The grade-description method,[15] often referred to as "predetermined grading"[16] and the "classification or grading method" is similar to the ranking method in that it measures the whole job rather than any of its component parts. It differs from the ranking method since it provides raters with a scale or "yardstick" for measuring differences among jobs. The scale is in the form of grades or classes which have been defined from the lowest level of job requirements to the highest level. The grades are described in a general manner in order to cover a variety of duties. In no way does the grade definition attempt to spell out in specific detail the various elements in jobs. Once grades are defined showing over-all differences in levels of duties, responsibilities, skills or similar job requirements, the raters need only to analyze each job and select and apply the written grade descriptions which most nearly represents the level of performance in that job. Simply stated this system involves sorting all jobs being evaluated into grades or classes which have been predetermined and arranged in order of importance.

The procedures for constructing a grading or classification method is as follows:

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[14] Otis, p. 70

[15] Ibid, p. 83.

[16] Eugene J. Benge, Job Evaluation and Merit Rating. (New York 1946), p.14.

1. Assign the responsibility to a trained job evaluation committee or director.

2. Determine the type and range of jobs to be included in the job evaluation plan. For example, the type of jobs to be included in the job evaluation program may consist of several major types, namely, nonsupervisory clerical, nonsupervisory factory, nonsupervisory sales, supervisory clerical, supervisory factory, supervisory sales, and executive. The range of jobs to be included for each major type may involve jobs up to department head level; jobs from department head level up to executive level; and jobs from executive level up to top executive level. The range is necessary since the duties and responsibilities for each major type may differ significantly in importance.

3. Determine the number of grades or classes needed to meet the needs for each scale. This is required in order that the scale would include enough grades to measure the entire range of jobs to be rated. For example, a scale for measuring both nonsupervisory and supervisory jobs would be wider in scope and require more grades than one measuring only nonsupervisory jobs. Several factors which may influence the number of grades or classes required in the scale are the traditional number of levels of jobs within the company, and the promotion policy of the organization.

4. Write the grade description.[17] The writing of the scale may involve two basic approaches. In the first method the jobs are classified as a whole in accordance with its difficulty or importance. After the jobs have been

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[17]Lanham, p. 69.

classified into a scale of various grades or classes, the descriptions assigned to each grade in the scale can be used as a basis for writing the grade description.

The second approach does not include classification of jobs prior to writing the grade descriptions. In this method, a number of predetermined grades are established prior to job classification. After grades are described in the various levels from minimum to maximum importance, all that is required is to assign each job in the corresponding grade or class level. A simple clerical job may be assigned to one of the following grade descriptions:

Grade 1. Very repetitive work requiring no previous experience or job training; work may include routine numerical or alphabetical filing.

Grade 2. Repetitive work requiring some specialized job training not exceeding four weeks; may include general typing and filing.[18]

Some of the major advantages of using the grade-description system are; it is simple to use, understand and execute, the results are fairly satisfactory,[19] and the employees have a rough conception of the classification structure. This method, has however, certain disadvantages. It is difficult to write a general grade description which adequately describes and covers the scope of jobs within a definite grade level and yet be sufficiently detailed as to be comparable to jobs which have specific duties or unique

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[18] Otis, pp. 95-100.

[19] Lanham, p. 43.

responsibility;[20] the individual job characteristics such as skills, effort, and responsibility are not considered which may produce incorrect classifications; jobs when analyzed are often found to fall into two grades or classes; the existing salary or wage range may affect the evaluation of the job into its proper grade level, and few raters are familiar with all jobs in the plant.[21]

The quantitative method--The quantitative system consists of the "point method" and the "factor-comparison method." These methods were introduced when it became apparent that the ranking and grade-description methods failed to provide one whichwould permit analytical study because the grade scale measured jobs in their entirety. Generally, the quantitative method is used when a company has dissimilar jobs or the jobs, because of their complexity, require a more analytical approach of measuring its component elements.[22]

The point method--Lanhan,[23] Yoder,[24] and Otis[25] are only a few authors on job evaluation that agree that the point method is the most widely used system at the present time. It involves a number of predetermined factors such as education, experience and physical effort which are common compensable factors

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[20]Otis, pp. 86-88.

[21]Lanhan, p. 43.

[22]Ibid, p. 73.

[23]Ibid, p. 47.

[24]Yoder, p. 434.

[25]Otis, p. 108.

to the majority of jobs in a plant.[26] These factors are assigned points depending upon the relative importance for dissimilar jobs. Points are also assigned for each degree of intensity. The addition of the number of points accorded each factor degree will reflect the numerical differences among jobs.[27]

The construction of a point-rating plan generally includes the following six steps:

1. Determine the type of jobs such as factory, clerical, supervisory or executive for which the plan is to be constructed.

2. Determine the common compensable factors to be used to successfully measure the type of jobs to be evaluated. The factors selected must be ratable, simple, acceptable by both management and workers, and kept to a minimum of the most important factors common to all jobs for which the system is to be constructed.

3. Define the factors. The definition of the factors must be a clear and precise formal statement of the meaning or significance of each aspect of the total job value. This is necessary to provide all raters with the same understanding or interpretation of the factors so that consistent evaluations will result.

4. Define the degree for each factor. The number of degrees should be equal to the levels of existence in the company. Thus in a modern electronic

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[26] Benge, p. 16.

[27] Otis, pp. 108-111.

firm where working conditions are approximately the same for all jobs, only several degrees may be necessary. However, a large number of degrees may be appropriate for the experience attribute because of significant levels of complexity. These degrees, similar to the factors, should be clearly defined avoiding ambiguous terms.

5. Determine the relative value of each factor. Since the job factors are not equally important in measuring the value of a job, the relative values are usually assigned on a percentage basis according to the proportionate weight of contribution to the total worth of the job.[28] The number of points assigned to the factor will depend on the particular conditions existing in each plant where the evaluation is going to take place.[29]

For example the percentage value of the skill factors for factory workers in various manufacturing concerns may adequately approximate forty per cent, fifty per cent, or sixty percent of the total value of the job depending upon the relative importance to these firms. It is conceivable that the working conditions percentage value of the total job value would be higher in the coal mining industries than the electronic industries.

6. Determine the point value of each degree. The assigning of point values to degrees is an important step toward a good point plan since it is here that errors can be built and pyramided into a system. The point values

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[28] Otis, pp. 123-138.

[29] Charm, p. 70.

for each degree are generally assigned by either an arithmetic or geometric progression basis.[30]

A list of some of the major advantages of the point system are:

1. A graphic and descriptive type of scale in terms of its component parts makes a more reliable and valid system of evaluating job worth.

2. The point values of jobs show in numerical terms the relative differences between jobs and enables simple classification of jobs into labor grades or job classes.

3. The system is less easy to manipulate than other systems.

4. Trained raters will be consistent in their evaluation.

5. The system increases in accuracy and consistency with use and is generally successful in evaluating a wide variety of job types.

6. Both management representatives and trained workers are able to use the system accurately and consistently.[31]

Some of the disadvantages of the point-rating plan are:

1. "The principal danger inherent in point evaluation is that the evaluator may forget that the method is merely a systematic approach to the problem of determining relative values. That is to say, no point evaluation system has sufficient accuracy to permit using it as a sole means of evaluating isolated jobs which have been removed from their organizational and functional concept."[32]

2. "A fixed number of factors, such as a dozen or two dozen, for which points will be assigned, must be established. Hence, the point system assumes that all jobs are composed of those factors and only those factors

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[30] Otis, pp. 138-146.

[31] Ibid, pp. 121-122.

[32] A. W. Barbour, Principles of Salary and Wage Administration. (N.Y. 1949) pp. 36-37.

If a job requires a high degree of some factor not included in the point scale, that job can get credit only to the extent that it requires the factors being utilized. It loses credit for one outstanding factor which might have added value to it.....

3. The assignment of point values for varying degrees of each factor is arbitrarily done.....who shall say that if one point is to be allowed for a job requirement of less than six years' education then four points are correct for eight years of education and eight points correct for twelve years of education? One could with equal justification either allow one point for each year of education beginning with the first grade, or by some geometric progression arrive at a very large number of points for the highest educational requirements. No one knows which procedure would be correct.....

4. Upper limits of the points to be assigned to the several factors must be arbitrarily established.....

5. The point system sets up seeming refinements which are not inherent in the judgments made by use of them.....one point is allowed if but one day is needed for an inexperienced person to develop satisfactory skill; two points are allowed if two to six days are required. But human judgment cannot adequately differentiate between skill acquired in one day and the skill acquired in two days.

6. A unit is created which is undefined. This unit is a point. But is the point which would be allowed for a job requiring less than six years of education the same unit as the point which would be allowed for requirement of one day for inexperienced person to develop satisfactory skill, or the same as that point which might be allowed for a job which required someone under twenty years of age, etc.? It seems extremely improbable that any human mind can hit upon a unit which can be considered as a common denominator of the factors taken into consideration.

7. Factors are frequently undefined....."[33]

8. Considerable clerical detail is required.

The factor comparison method—The factor-comparison method, like the point system, is quantitative and analytical in its approach to the rating of jobs since it breaks the jobs into its component parts or factors common throughout

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[33] Benge, pp. 19-20.

the range of the jobs to be rated. It is dissimilar in that jobs are not judged by a descriptive scale, but are compared with each other in order of relative importance. This system ranks the principal factors which are common in most jobs. Actually the method involves two rankings.

1. Ranking jobs by factors.

2. Ranking jobs by assigning to each factor a part of the total money rate.[34]

Eugene J. Benge, one of the outstanding pioneers associated with the factor-comparison method,[35] has indicated that in actual practice, five principal factors are normally used. They are:

1. Mental Requirements
2. Skill Requirements
3. Physical Requirements
4. Responsibilities
5. Working Conditions[36]

These or similar compensable factors to be used in an organization are selected and defined. Widely spaced key jobs which represent the major levels of each of the previously indicated factors, are compared and ranked with each other, factor by factor, in order of relative importance. Values are assigned to each

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[34]Lanham, p. 101.

[35]Otis, p. 168.

[36]Benge, p. 22.

of these factors by apportioning the average current rates being paid for the jobs.[37] Recently, there has been a tendency to assign relative numerical values to the factors rather than average current rates paid for the jobs.[38] As soon as rates or numerical values are assigned to the factors of the key jobs, the remaining jobs to be rated are then compared with these, factor by factor. The values assigned to each of the factors are added and the total job value determined.

The original method of constructing the factor-comparison method involves definite steps. A brief description of these steps are based on the work[40] of Benge, Burk and Hay who have pioneered this method.

1. Assign the responsibility to a trained job evaluation committee or director. Benge points out,

> "Many concerns have selected job analysts from the ranks by means of aptitude tests. Analysts should possess high intelligence, clerical ability and better than average personalities. They should be given careful training and close supervision."[41]

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[37] Lanham, pp. 101-102.

[38] Otis, p. 168.

[39] Lanham, p. 102.

[40] For details concerning this work and an excellent account of the factor-comparison system see Eugene J. Benge, Job Evaluation and Merit Rating. (New York, 1946), and Eugene J. Benge, Samuel L. H. Burk, and Edward H. Hay, Manual of Job Evaluation (New York, 1941).

[41] Benge, p. 23.

2. Determine the type and range of jobs to be included in the job evaluation plan.[42]

3. Determine the number and type of compensable factors which represent the majority of jobs in the organization. As mentioned previously, factors which are common in many factor-comparison plans are, mental requirements, skill requirements, physical requirements, responsibilities, and working conditions.

4. Select the key jobs. Both the factors and the key jobs should be clearly and exactly defined with respect to its skills, responsibilities, and requirements.

5. Rank key jobs by factors.

6. Distribute rates. The rate per hour, week, or month is distributed over the chosen factors of each key job. Generally speaking, the factor value of each key job depends upon their relative importance or factor ranking.

7. Prorate points to the selected factors into a factor comparison scale. Some of the advantages of the factor-comparison method are:

1. The method insures comparing jobs on comparable points.

2. The plan constructed is tailor-made for each organization.

3. Rating jobs is relatively easy after the plan is set up.

4. The plan can be expressed in monetary units requiring no conversion.[43]

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[42] See step number two, p. 11, for greater detail.

[43] Lanham, p. 45.

5. "This is the most accurate and flexible method of all (other methods) ....."[44]

The disadvantages commonly attributed to the system are listed as follows:

1. If inequitable rates are assigned to key jobs, the error would pyramid into the other jobs being rated.

2. Since the scale is normally expressed in monetary units, the basis for the entire rating scale may be thrown out of balance due to fluctuations.

3. The duties of key jobs often change which may throw the rating scale out of proper alignment.

4. The construction of the rating scale is complicated.

5. The method is time-consuming and requires considerable clerical detail.[45]

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[44] Chams, p. 69.

[45] Lanham, p. 45.

CHAPTER III

THE QUESTIONNAIRE

CONSTRUCTING THE QUESTIONNAIRE

Other studies[46] conducted on job evaluation were concerned with industry-wide salary-type job evaluation systems in the aircraft industry whereas this research surveys factory-type evaluation systems for various types of industries in the Chicago Metropolitan area.

A questionnaire, similar to that prepared by Carey, was constructed and mailed to all manufacturers employing over one thousand people in the Chicago Metropolitan area. The questionnaire, in addition to the letter of introduction, is listed in the appendix.[47]

The Chicago Metropolitan area[48] was selected because of the diversification of industry, the growth of industrial development and investment, and the increasing importance to the area due to the recent completion of the St. Lawrence Seaway.

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[46] William R. Sprigel, and Elizabeth Lanhan, Job Evaluation in Aircraft Industries. Austin, Texas 1953, and Thomas S. Carey, The Administration and Maintenance of Salary Administration Programs Through Job Evaluation - A Survey of Salary Administration and Job Evaluation in the Aircarft Industry. Loyola University, Chicago, Illinois, 1957.

[47] Appendix I, pp. 52-55.

[48] Appendix II, p. 56

The list of manufacturers employing over one thousand persons in the Chicago area was obtained from a directory[49] furnished to the author by the Chicago Association of Commerce and Industry. The directory includes the manufacturer's name, address, and principal product classifications. It also lists beneath each manufacturer the associated subsidiaries, affiliates, plants, and divisions which may also employ over one thousand persons. The author assumes that the information presented in the returned questionnaire is applicable to its subsidiaries, affiliates, plants, and divisions or the parent organization located outside of the Chicago Metropolitan limits, however, it should be pointed out that the results of this research neither proves nor disproves this assumption and that the data listed herein refers specifically to the manufacturers listed in the directory.

Manufacturers receiving questionnaires--Altogether, each of 181 manufacturers listed in the directory were sent questionnaires. Ninety-three or 51.4% of the companies receiving the questionnaires made some type of reply. Several of these replies were made by the parent organizations located outside of the geographical confines set by the author, however, the information presented in the questionnaires was applicable to its subsidiaries located in the Chicago area, therefore, this information has been compiled and is a part of this research.

Of the ninety-three companies who responded to the questionnaire, forty-two or 45.3% replied that they had a formal type of job evaluation plan in existence whereas twenty-four or 25.8% of the companies indicated that they

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[49]Chicago Association of Commerce and Industry, Directory of Employees in the Chicago Metropolitan Area. (Chicago, Illinois, 1959).

had no factory-type job evaluation system in effect.

It was found that the forty-two companies having a formal factory-type job evaluation plan were quite diversified in their principal product classifications. These classifications were taken directly from the directory and are listed in the appendix.[50]

Ten or 10.8% of the manufacturers who participated in the survey did not complete the questionnaire because they did not employ factory-type people. It should be pointed out that some of the manufacturers listed in the directory do not consist of manufacturing-type industries.

Table I[51] disclosed the participating companies' responses by number and per cent.

The remaining portion of this research is based on the information presented by the sixty-six out of the one hundred and eighty-one companies which completed the questionnaires.

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[50] Appendix III, pp. 57-59.

[51] Table I, p. 22.

TABLE I

COMPANIES PARTICIPATING IN STUDY:

RESPONSES BY NUMBER AND PER CENT

Manufacturers' Responses	Number of companies who made replies to the question-naires	Per cent* of companies who replied to the question-naires
1. Unusual circumstances prevented the company from returning the question-naires, i.e., steel strike in effect, great work load, and limited staff.	12	12.8
2. Company policy prevented their partici-pation.	5	5.3
3. Companies who did not complete the questionnaires because the main work force fell outside the limits designated by the hypothesis.	10	10.8
4. Companies do not have a formal factory-type job evaluation system.	24	25.8
5. Companies do have a formal factory-type job evaluation system.	42	45.3
6. Total number of companies within the universe who made a reply concerning the questionnaires.	93	100.0

*Approximate.

CHAPTER IV

TYPES OF JOB EVALUATION SYSTEMS USED BY MANUFACTURERS

As indicated previously forty-two companies have a factory-type job evaluation system in effect. Ten or 24% of these companies use the National Electrical Manufacturers' Association plan (NEMA) or the National Metal Trade Association plan (NMTA) and eight or 19% of these companies use the basic steel plan.

The author, after reviewing the manufacturers' job evaluation manuals and similar information against the information disclosed in the completed questionnaires, found that a significant number of salary administrators incorrectly classified their systems. For example, two wage and salary administrators specifically replied in the questionnaires that they use the NEMA plan. They verified this by indicating the corresponding point values for each attribute listed in the questionnaire. When answering the question as to type of job evaluation method used, one administrator replied the factor-comparison method, and the other administrator listed a combination method (point-factor comparison). To the best of the author's knowledge, no authority on job evaluation has referred to the NEMA or NMTA plans as anything other than a straight-point system.

Altogether, eleven or 26% of the 42 wage salary administrators completing the questionnaires, incorrectly classified their job evaluation system. Table

II[52] points out this discrepancy based on the author's interpretation of the data presented in the questionnaires and manufacturers' job evaluation manuals.

The author expected that a large percentage of the companies would use the point system since the method is generally successful in companies having a wide variety of job types. As Table II indicates, the point system is the most common method used to evaluate factory-type jobs. This frequency study agrees with the statements made by Lanhan,[53] Benge,[54] and Otis,[55] that the point system is the most commonly used job evaluation system in industry today.

The second most popular method used to evaluate factory-type jobs is the ranking method. Due to the fact that one of the main disadvantages of the ranking system is the difficulty to uniformly price jobs in large companies, it is significant to note that the companies utilizing this system were companies employing 850, 4,000, 7,500, 12,000, and 40,000 factory-type employees.

A comparison of the type of job evaluation systems used by the companies against the number of factory-type people employed by the companies revealed no apparent relationship.

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[52] Table II, p. 25.

[53] Lanhan, p. 73.

[54] Benge, Eugene J., Manual of Job Evaluation. (New York, 1941), p. 30.

[55] Otis, p. 108.

TABLE II

TYPES OF FACTORY-TYPE JOB EVALUATION SYSTEMS USED BY MANUFACTURERS EMPLOYING OVER 1,000 PERSONS IN THE CHICAGO METROPOLITAN AREA: COMPARISON OF SALARY ADMINISTRATORS' RESPONSES WITH AUTHOR'S INTERPRETATION

Job Evaluation System	Salary Administrators' Responses	Author's Interpretation				
		Job Ranking	Grade Description	Point Method	Factor Comparison	*Unknown
Job Ranking	5	5				
Grade Description	2		2			
Point Method	21			21		
Factor Comparison	7			6	1	
Point-Ranking	1			1		
Ranking-Grade Description	1					1
Point-Factor Comparison	5		1	3		1
Total	42	5	3	31	1	2

Total - 42

*The author was unable to interpret job evaluation methods used by two companies due to insufficient information presented in the questionnaires.

The main problems in administering the job evaluation plan—The results of the survey showed that the main problems, found to be common among many of the organizations responsible for effective wage and salary administration, were:

1. Proper training of employees, supervisors, and union officials in wage and salary practices and concepts.

2. Maintaining up-to-date job classifications and descriptions.

3. Consistency of application between company divisions, work locations or satellites.

4. Defending classifications to Union.

5. Proper classification of employees.

Commonly used job factors—As indicated earlier in the thesis, the quantitative system (point and factor comparison methods) involves the use of definite factors which are present in varying degrees in various jobs. Based on the author's analysis of the types of job evaluation systems used by the manufacturers, thirty-two out of the forty-two companies used the quantitative system. These thirty-two companies selected ninety-seven different factors. The factor terms used most frequently by the companies are: education, experience, judgment, physical effort, responsibility for equipment, responsibility for safety of others, responsibility for work of others, and working conditions. All of the factor terms appearing more than twice are shown in Table III.[56]

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[56] Table III, p. 27.

TABLE III

FACTOR TERMS FREQUENTLY FOUND IN FACTORY-TYPE JOB EVALUATION PLANS

Factor Terms	Company Occurrence
Education	20
Employment Training and Experience	8
Experience	15
Hazards	27
Initiative	5
Initiative and Ingenuity	10
Judgment	19
Knowledge of Materials	2
Knowledge of Methods	2
Manual Skill	10
Mental and Visual Demand	10
Mental Skill	8
Physical Effort	16
Physical Demand	12
Pre-employment Training and Experience	8
Responsibility	3
Responsibility for Equipment	22
Responsibility for Equipment and Materials	2
Responsibility for Materials	8
Responsibility for Material or Process	10
Responsibility for Operations	8
Responsibility for Safety of Others	26
Responsibility for Tools and Equipment	8
Responsibility for Work of Others	15
Surroundings	8
Visual Demand	3
Versatility	4
Working Conditions	22

The factor terms used only once by the companies are: abnormal position; abnormally strenuous; accident; accident exposure; accuracy; alertness; analytical ability; analytical requirements; attention to orders; avoidance of shut-downs; clothing spoilage; complexity; confidential information; co-operation; cost of error; dexterity; disagreeableness; disease; environment; equipment use; essential knowledge; excess personal experience; fatigue; formal education; general schooling; hazards and working conditions; hazards, health and accidents; health; ingenuity, initiative, and analytical ability; internal injury; job knowledge; knowledge; knowledge and skill; knowledge of equipment; knowledge of equipment and tools; later effort; learning period; maintenance of operating pace; manual dexterity; mechanical ability; mental and visual effort; mental application; mental capability; mental effort; mental exertion; mental stability; monotony; muscular coordination; other responsibility; personality requirements; physical exertion; physical strength, previous experience; quickness of comprehension; read and write; responsibility for equipment and materials; responsibility for loss; responsibility for quality; safety of others; skill; skill application; skill and dexterity; skill (dexterity, ability, aptitude); strain; supervisory ability; supervisory responsibility; teamwork; training period; visual attention; versatility; and waste of labor and material.

Classification of factors under major headings--The majority of authorities on job evaluation agree that all the factors or attributes will fall under four major headings. These major headings are skill, effort, responsibility, and job conditions. The ninety-seven factors previously listed have been classified under each of these headings in Table IV below.

TABLE IV

FACTORS CLASSIFIED UNDER MAJOR HEADINGS

Skill Factors

Analytical Ability
Analytical Requirements
Attention to Others
Complexity
Dexterity
Education
Employment Training and Experience
Essential Knowledge
Excess Personal Experience
Experience
Formal Education
General Schooling
Ingenuity, Initiative, and Analytical Ability
Initiative
Initiative and Ingenuity
Job Knowledge
Judgment
Knowledge
Knowledge and Skill
Knowledge of Equipment
Knowledge of Equipment and Tools
Knowledge of Materials
Knowledge of Methods
Learning Period
Manual Dexterity
Mechanical Ability
Mental Capability
Mental Stability
Personality Requirements
Pre-employment Training and Experience

TABLE IV (Cont'd.)

Skill Factors (Cont'd.)

Previous Experience

Quickness of Comprehension

Read and Write

Skill

Skill Application

Skill and Dexterity

Skill (Dexterity, Ability, Aptitude)

Training Period

Versatility

Responsibility Factors

Accuracy

Alertness

Avoidance of Shut-Downs

Confidential Information

Cooperation

Cost of Error

Equipment Use

Internal Injury

Maintenance of Operating Pace

Other Responsibility

Responsibility

Responsibility for Equipment

Responsibility for Equipment and Materials

Responsibility for Loss

Responsibility for Materials

Responsibility for Materials or Process

Responsibility for Operations

Responsibility for Quality

Responsibility for Safety of Others

Responsibility for Tools and Equipment

Responsibility for Work of Others

Safety of Others

Supervisory Ability

Supervisory Responsibility

TABLE IV (Cont'd.)

Effort Factors

Abnormal Position	Mental Skill
Abnormally Strenuous	Muscular Coordination
Fatigue	Physical Demand
Later Effort	Physical Effort
Manual Skill	Physical Exertion
Mental and Visual Demand	Physical Strength
Mental and Visual Effort	Strain
Mental Application	Visual Attention
Mental Effort	Visual Demand
Mental Exertion	

Job Condition Factors

Accident	Hazards and Working Conditions
Accident Exposure	Hazards, Health and Accidents
Clothing Spoilage	Health
Disagreeableness	Monotony
Disease	Surroundings
Environment	Working Conditions
Hazards	

Number of job factors used by the various companies.--The number of job factors selected by the companies to determine the value of jobs ranged from five to eighteen. The majority of companies using the quantitative system to

evaluate jobs required eleven and twelve factors. As indicated in Chapter II, only the quantitative system (Point and Factor Comparison Method) involves the use of factor terms. It was previously disclosed that thirty-two of the forty-two companies having a formal factory-type job evaluation plan and responding to the questionnaires used the quantitative method. Table V below illustrates the number of factors used by these thirty-two companies.

TABLE V

THE NUMBER OF JOB FACTORS USED BY MANUFACTURERS EMPLOYING THE QUANTITATIVE SYSTEM

Number of Factors	Number of Companies
5	2
6	1
8	2
11	11
12	12
13	1
14	2
18	1
	32

The most popular number of factors used under each heading are: skill, three factors; effort, two factors; responsibility, four factors; and job conditions, two factors. Table VI[57] illustrates the number of job factors

[57]Table VI, p. 33

present under each heading and includes the frequency of use by the manufacturers.

TABLE VI

NUMBER OF JOB FACTORS USED UNDER MAJOR HEADINGS AND COMPANY OCCURRENCE

Number of Skill Factors	Company Occurrence	Number of Effort Factors	Company Occurrence
1	2	1	6
2	1	2	25
3	15	3	1
4	9	4	1
5	4		
6	2		
7	1		

Number of Responsibility Factors	Company Occurrence	Number of Condition Factors	Company Occurrence
1	3	1	3
2	1	2	27
3	1	3	2
4	27	4	0
5	2	5	1

In Table VII[58] the relative values are listed under each major heading for all thirty-two companies using the quantitative system to evaluate factory-type jobs. The relative values are in the form of percentages which were obtained by dividing the maximum allowable points present under each major heading into the total maximum points for all major headings.

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[58] Table VII, p. 35.

TABLE VII

RELATIVE VALUES ASSIGNED TO MAJOR HEADINGS

Company	Skill		Effort		Responsibility		Job Conditions	
	Points	*Per Cent	Points	*Per Cent	Points	*Per Cent	Points	*Per Cent
**A	10.5	24.4	22.5	52.6	5.0	11.5	5.0	11.5
***B	250	50.0	75	15.0	100	20.0	75	15.0
C	50	25.0	31	16.0	85	42.0	34	17.0
D	450	48.0	210	23.0	172	18.0	100	11.0
E	760	68.0	60	5.0	250	23.0	40	4.0
F	74	41.5	33	14.6	44	19.5	55	24.4
G	400	52.0	72	9.0	232	30.0	65	9.0
H	162	53.0	22	7.0	80	26.0	43	14.0
I	146	49.0	89	29.0	35	12.0	30	10.0
J	660	55.0	240	20.0	180	15.0	120	10.0
K	400	40.0	150	15.0	350	35.0	100	10.0
L	560	40.0	100	7.0	520	37.0	220	16.0
M	440	44.0	160	16.0	260	26.0	140	14.0
N	218	44.0	110	22.0	77	15.0	95	19.0
O	56	56.0	10	10.0	24	24.0	10	10.0
P	480	42.0	90	8.0	530	46.0	40	4.0

*Approximate

**Represents eight companies using the steel plan.

***Represents ten companies using the NEMA plan.

CHAPTER V

JOB DESCRIPTION AND RESPONSIBILITIES OF JOB ANALYSTS

Preparing the job descriptions—The job analyst is required to describe each job's duties, responsibilities and requirements if accurate evaluations are to be made.[59] This information is obtained from various sources. Patton discloses that observation of the job in addition to discussions with the operator and supervisor is used quite extensively in the shop.[60] As will be seen in the following table, this conclusion was supported by the manufacturers' responses.

Altogether the manufacturers pointed out fourteen methods of obtaining essential job information. These methods are shown in Table VIII[61] along with the number of companies adopting each method.

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[59] Lanham, p. 176.

[60] Patton, p. 77.

[61] Table VIII, p. 37.

TABLE VIII

METHODS USED TO OBTAIN INFORMATION FOR PREPARATION OF JOB DESCRIPTION AND NUMBER OF COMPANIES ADOPTING EACH METHOD

Method	Number of Companies
Interview employee and supervisor and description of job written by job analyst	27
Description of job written by supervisor	8
Interview supervisor	8
Interview supervisor and supervisor completes questionnaire	7
Supervision completes questionnaire	4
Interview employee	4
Interview supervisor and observe job and description of job written by job analyst	3
Interview supervisor and job analyst prepares description	3
Employee completes questionnaire	1
Interview employee and employee completes questionnaire	1
Description of job written by employee	1
Observe job and compare with comparable jobs in the industry	1
Interview supervisor, industrial engineer, and employee and job description written by job analyst	1
Supervisor prepares rough description of job. Industrial engineer reviews description of job and prepares rough description. Job analyst reviews description and job and evaluates.	1

NOTE: Some companies used more than one method.

Development of job evaluation systems—The basic job evaluation methods used by the companies were developed or applied by company job evaluation specialists, special company committees, consultant agencies, and joint company-union committees. The number of companies which had their job evaluation system developed or applied by each group is disclosed in Table IX below.

TABLE IX

DEVELOPMENT OR APPLICATION OF JOB EVALUATION SYSTEMS

Group Developing or Applying Job Evaluation System	Number of Companies
Company Job Evaluation Specialists	16
Consultant Agencies	13
Special Company Committees	5
Joint Company-Union Committees	8
	42

The functions and responsibilities of the job analyst—Patton and Smith disclose that the function and responsibilities of the job analyst will usually depend upon the size of the company and the extent to which management is willing to delegate the work.[62]

Table X[63] shows that the job analysts perform many duties in addition to pricing jobs. Although this list was not intended to show all of the duties

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[62] John a. Patton and Reynold S. Smith, Jr., Job Evaluation. (Chicago, Illinois, 1949), pp. 47-48.

[63] Table X, p. 39

TABLE X

RESPONSIBILITIES OF JOB ANALYSTS

ADMINISTERING FACTORY-TYPE JOB EVALUATION PLANS

Responsibilities or Functions	Number of Companies
Office-type job evaluation	21
Recruiting	7
Organization and charts	8
Supervisor counseling	10
Industrial Engineering	12
Wage surveys	24
Training	11
Reports (arbitration briefs, wage reports, case studies)	3
Merit Reviews	3

NOTE: Three companies did not reply to this question. Some companies listed more than one responsibility.

and responsibilities of the job analyst, the author believes that the majority of the most important functions are included in the table.

In general, the duties performed by the analysts were directly related to the job titles of the functional organization. For example, the job analysts reporting to the industrial engineering organization did not perform duties such as recruiting, merit rating, supervisory counseling and related duties commonly accepted to be personnel functions.

Table XI[64] shows the various departments functional for administering the job evaluation activity. As pointed out in this table, wage and salary administration was the responsibility of several organizations. The majority of companies required the Industrial Relations Department and the Personnel Department to carry on job evaluation work. In some companies the engineering organization was responsible for administering the wage and salary program.

Number of job analysts--The author attempted to show a ratio between the number of job analysts only evaluating jobs and the number of factory-type employees. This relationship was not valid due to the large number of functions performed by the job analysts.

Number of job titles--The number of titles will depend upon the type of business, the range of skills, the operating policies and methods, and the degree of specialization among the workers.[65]

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[64] Table XI, p. 41

[65] Patton and Smith, Jr., p. 76.

TABLE XI

DEPARTMENT RESPONSIBLE FOR ADMINISTERING THE JOB EVALUATION PROGRAM

Department	Number of Companies
Industrial Engineering	6
Industrial Relations	15
Personnel	11
"Industrial Engineering (administration), Industrial Relations (labor relation aspects), Personnel (policy development and recommendations)"	1
"Industrial Engineering (description and evaluation), Industrial Relations (on administration of established jobs)"	1
Industrial Engineering and Personnel	2
Wage and Salary Administration	2
Wage Practices	1
Wage Administration Section of Education	1
Wage and Salary Committee	1
	41

NOTE: One company did not reply to this question.

Table XII[66] illustrates the number of job titles for each one hundred shop employees. It should be noted that some companies have as few as two job titles for each one hundred employees whereas others have as many as fifty-six separate titles for each one hundred employees. The majority of companies found it necessary to have no more than ten titles for every one hundred employees.

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[66] Table XII, p. 43.

TABLE XII

NUMBER OF JOB TITLES AND COMPANY OCCURRENCE

Company Occurrence	Titles per 100 shop employees
4	2
2	4
5	6
2	8
3	10
1	12
2	14
1	16
1	20
1	22
3	24
1	28
1	40
1	52
1	56
29	

NOTE: Thirteen companies did not answer this question.

CHAPTER VI

WAGE SURVEYS

Purpose—Wage surveys are usually conducted to determine how the wage structure of the company compares with the wages in the community for similar type jobs. As soon as this information has been obtained, the company can establish its own wage scale or alter any existing wage rates which have been found to be out of line. Generally, any alterations of existing wage rates are made only with the consent of the Union.

Participation—All or forty of the companies reported that they participated in wage surveys. Of these, thirty-two developed and conducted their own wage surveys whereas the remaining eight companies participated by completing the surveys developed by others.

Twenty-six companies stated that they participated in local surveys. Two companies participated in country-wide surveys; twelve companies participated in industry-wide surveys; and ten companies participated in local, country-wide, and industry-wide surveys. As was expected, some companies participated in more than one type of survey. Two companies did not reply to this question.

Only nineteen of the forty companies which participate in wage surveys obtain wage and salary information by means of telephone contacts, correspondence, and personal contacts. Since a significant number of companies do not use all three means to achieve wage and salary information, it is not surprising to find that some companies indicated that wage surveys were of little value.

Results achieved from wage surveys—The significant results which companies achieve from wage surveys are summarized in Table XIII below.

TABLE XIII

SIGNIFICANT RESULTS COMPANIES ACHIEVE FROM WAGE SURVEYS

Results	Company Occurrence
No value other than promoting good will within the community.	4
Wage surveys other than those conducted by the steel industry are of little value.	5
Knowledge of wage rates for comparable jobs to be used as guides for negotiation purposes.	12
Comparison of company wage rates against survey rate averages in order to keep abreast of wage trends and policies.	11
Uniformity of job content among companies producing similar products.	1
Assist companies in determining hiring wage rates.	1
Companies did not reply to this question.	9
	43

NOTE: One company made two replies.

Problems in using the results of wage surveys—The majority of companies indicated that they are confronted with major problems when conducting wage surveys. Ten companies stated that the companies participating in their surveys did not report accurate and complete comparisons of job content and wage rates. Eight companies disclosed that the conclusions based on wage

surveys are often questionable due to lack of personal contact and uniform interpretation of job content. Three companies stated that the integration of incentive earnings with base wage rates and the evaluation of fringe benefits and supplemental compensation were major problems. Two companies found a lack of comparable jobs because of their high degree of specialization. One company stated that they had difficulty in obtaining complete cooperation from the participating companies and another company felt the results of the surveys were of little value because of "unacceptability to nation-wide union even though we (they) pay over industry rates." Four companies indicated that they had no real problem in conducting wage surveys and four companies did not reply to this question.

The majority of companies use wage surveys primarily as a tool for negotiating wage rates. Table XIV below indicates the methods used to determine the hourly wage rates by company occurrence.

TABLE XIV

METHODS USED TO DETERMINE HOURLY WAGE RATES

Method	Company Occurrence
Union negotiation	27
Wage Surveys	15
Supply and Demand	2
Wage surveys and original basic rates	1
Wage surveys and economics of business	1
Companies did not reply to this question	3
	49

NOTE: Some companies indicated more than one method.

Audits--In answer to the question as to whether follow-up methods (audits or investigations) are used to determine if factory-type employees are properly classified in authorized job grades, thirty-two companies replied, "yes", four companies replied, "no", and six companies made no reply.

Table XV below shows that the first level of shop supervision is generally responsible for conducting audits.

TABLE XV

ORGANIZATION RESPONSIBLE FOR CONDUCTING AUDITS

Organization	Company Occurrence
First level of supervison	16
Personnel Department	4
Labor Relations Department	2
General Foreman	2
Wage and Salary Administration Department	2
Superintendent ("director level")	2
Department Superintendent	1
Job classification engineer	1
Head of industrial engineering department	1
Industrial engineer and operating foreman	1
Companies do not conduct audits	4
	36

NOTE: Six companies did not reply to this question.

CHAPTER VII

SUMMARY

The purpose of this study was to conduct a survey to find certain information with respect to the existence and application of factory-type job evaluation plans used by manufacturers employing over one thousand persons in the Chicago Metropolitan Area.

The method of research used in the study was a three page mailed questionnaire to all manufacturers listed in the directory, Directory of Employees in the Chicago Metropolitan Area, published in 1959 by the Chicago Association of Commerce and Industry.

The results of the questionnaire was of particular significance and value. As shown in Table I, 45.3% of the manufacturers employing over one thousand persons in the Chicago Area had a formal-type job evaluation plan in existence whereas 25.8% of the manufacturers reported that no formal factory-type evaluating system was in effect. In the author's opinion the percentage of companies not having a factory-type job evaluation method is significantly high considering that these companies employ over one thousand persons.

The study disclosed that a large percentage of the manufacturers use the basic steel plan and the commonly referred to National Electrical Manufacturers' Association plan (NEMA) or National Metal Trade Association plan (NMTA). The author does not wish to imply that the more popular type plans

are the best plans. The best job evaluation plan is that which has been developed to meet the specific needs of each particular company. This conclusion is supported by Patton:

> "Rarely, however, will a plan meet the requirements and fit the circumstances of two or more companies equally well, even though the concerns may be engaged in similar operations. Variances in policy, working conditions, and operating methods may preclude the application of a single plan by more than one company. It is well to consider such variations before endeavoring to apply a plan used with success by another company.....If a plan is designed to emphasize responsibility characteristics and to de-emphasize skill characteristics is applied in a plant where there is a preponderance of skilled employees who have relatively little responsibility, the requirements of the occupations evaluated will not be properly recognized.....it is unusual to find a company whose policies, operating methods, and working conditions are so similar as to make possible identical treatment in the measuring of job worth."[67]

Altogether, the companies using the quantitative system used ninety-seven different job factors. These were broken down by the author into four principal categories; skill, effort, responsibility, and job conditions. It was found that the number of factors predominantly used under each principal category are skill, three; effort, two; responsibility, four; and job conditions, two. Twenty-three out of thirty-two companies using the quantitative method (point method and factor-comparison method) used eleven and twelve separate factors for adequate differentiation of jobs. The author agrees with Patton who concludes, "The number of factors to be used should exceed the number required for maximum simplicity (four or five) but should be less than the number required for maximum theoretical accuracy (twenty to

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[67] Patton and Smith, Jr., pp. 47-48.

thirty). Ten to fifteen factors strike a balance between simplicity and theoretical accuracy....."[68]

The most common method of the job analyst to obtain information for the preparation of job descriptions is to interview the employee and supervisor. The job analyst is chiefly responsible for writing the description.

The factory-type job evaluation plans which are used by the manufacturers were developed or first applied by company job evaluation specialists, consultant agencies, joint company-union committees and special company committees. Of these, the company job evaluation specialists and consultant agencies were more often called upon to formulate plans.

The majority of manufacturers were responsible for many functions other than evaluating only factory-type jobs. The study revealed that the factory-type job analysts most often reported to the Personnel and Industrial Relations departments.

The number of job titles ranged from two to fifty-six for each one hundred employees engaged in factory-type work.

All of the companies responding to the questionnaires participate in wage surveys. Eighty per cent of the companies develop and conduct their own wage surveys. It was found that local and industry-wide surveys are predominantly used and that this data is of significant value when attempting to keep abreast of wage trends and policies and when negotiating wage rates with unions.

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[68] Patton and Smith, Jr., p. 51.

Audits are made in the majority of companies by the first level of shop supervision in order to determine if factory-type employees are properly classified.

APPENDIX I

LETTER OF INTRODUCTION

2245 West Cullerton St.
Chicago 8, Illinois
October 19, 1959

Dear Sir:

I am presently working on a thesis which is a partial requirement for a Master's Degree from the Institute of Social and Industrial Relations, Loyola University, Chicago, Illinois.

The thesis is basically an analysis of the various types of job evaluation plans used by manufacturers employing over 1,000 persons in the Chicago Metropolitan Area. Since your company is one of such firms, it is requested that the enclosed questionnaire be completed and returned to the writer in the self-addressed envelope by December 1, 1959. This date is important since the completed thesis is due prior to January, 1960.

Your cooperation in providing complete information on the survey questions applicable to your company will insure the greatest possible accuracy of this research. If you feel that this study is valuable to your company, a copy of the thesis will be forwarded to you upon request.

I wish to assure you that the information obtained from your answers will be held in the strictest of confidence and the thesis will be presented in such a manner as to prevent the association of data from the individual company participating.

Your cooperation in fulfilling this request will be greatly appreciated.

Sincerely,

Frank J. Baleno, Jr.

APPENDIX I (Cont'd.)

JOB EVALUATION QUESTIONNAIRE

1. Name of Company _____.
2. Would you object to have your Company publicized in a list with all other Companies participating in this survey? Yes _____ No _____.
3. Check the type of job evaluation plan used to cover factory-type (shop) employees. (If more than one Plan or a combination of Plans are used, specify type).
   No Job Evaluation _____ Factor Comparison _____.
   Point System _____ Job Ranking _____.
   Other (Specify) _____.
4. Check factors used to evaluate factory-type (shop) occupations.

Factor	Minimum Points	Maximum Points	Number of Degrees or Levels
Education			
Experience			
Judgment			
Physical Effort			
Visual Attention			
Responsibility for Equipment			
Responsibility for Material			
Resp. for Safety of Others			
Resp. for Work of Others			
Hazards			
Working Conditions			
Other Factors (Specify)			
_____			
_____			
_____			
_____			
_____			
_____			
_____			

5. How many factory-type (shop) grade levels _____ and job titles _____ are used?
6. What is the point range for each grade level? _____.

Point Range	Grade Level	Point Range	Grade Level
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

7. Check methods used to obtain information for job descriptions.
   a. Interview employees _____
   b. Interview supervisor _____
   c. Employee completes questionnaire _____
   d. Supervisor completes questionnaire _____
   e. Interview employee and employee completes questionnaire _____
   f. Interview supervisor and supervisor completes questionnaire _____
   g. Description of job written by employee _____
   h. Description of job written by supervisor _____
   i. Interview employee and supervisor and description of job written by job analyst _____
   j. Other (Specify) _____.

8. Who developed your present factory-type job evaluation plan? (Consultant Agency; Special Company Committee; Company Job Evaluation Specialists; etc.) _____.

9. What department or organization is functional for administering the Job Evaluation Program?
   Industrial Engineering _____
   Industrial Relations _____
   Personnel _____
   Other (Specify) _____

10. If your Company were to establish a new job evaluation plan, what changes in factors, method in administration, job evaluation plans, etc., would be effected, if any? _____.

11. Does Union participate in Job Evaluation other than through Grievance Procedure? Yes _____ No _____ Explain _____.

12. What is the main problem in administering the job evaluation plan? _____.

13. Are follow-up methods (audits or investigations) used to determine if factory-type employees are properly classified in authorized grades? Yes _____ No _____. If "yes", what level of supervison is responsible for placing misclassified employees in the proper grade level? _____.

14. How many levels of supervision are there? _____.

15. Approximate number of factory-type employees in your Company _____: covered by factory-type job evaluation plan _____: covered by Union Contract _____.

16. Number of factory-type job analysts employed _____.
17. The job analyst reports to what level of supervision _____.
18. Indicate other responsibilities of the job analyst.

Office-type job evaluation	_____	Wage Surveys	_____
Recruiting	_____	Training	_____
Organization and Charts	_____	Audits	_____
Supervisory Counseling	_____	Employee Records	_____
Industrial Engineering	_____	Other (Specify)	_____

_____.

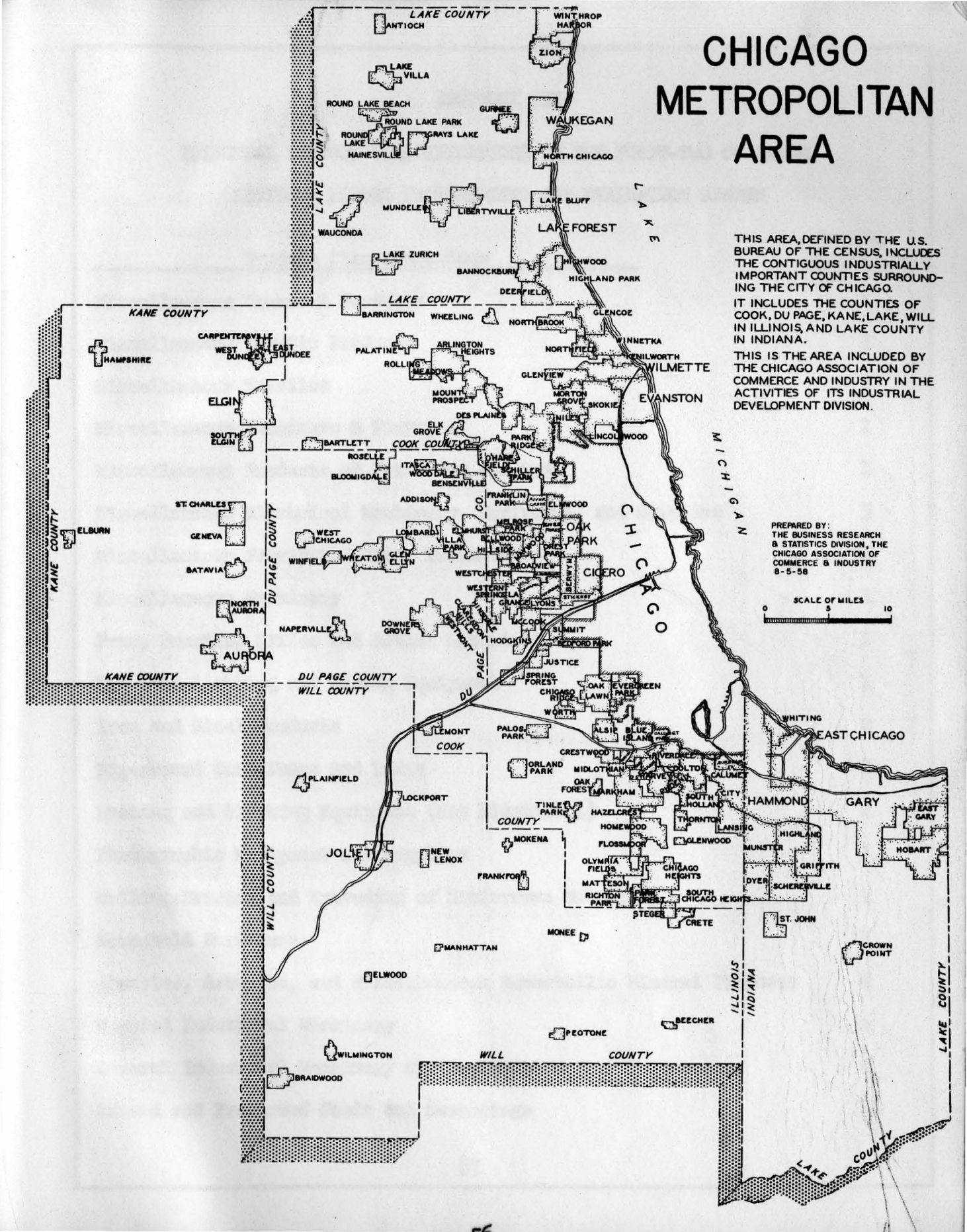
19. What is the highest level of factory-type supervision evaluated by your job analyst? _____.
20. The hourly wage rate for each grade level has been determined by:

Union Negotiation	_____	Wage Surveys	_____
Supply and Demand	_____	Other (Specify)	_____

_____.

21. Does your Company conduct wage surveys? Yes _____ No _____.
22. Does your Company participate in wage surveys? Yes _____ No _____.
23. Are the surveys which you conduct or participate in local, country-wide, industry-wide, other (specify)? _____.
24. The survey conducted or participated in is made by telephone _____, correspondence _____, personal contact _____, a combination of _____, other (specify)? _____.
25. What significant results does your Company achieve from the surveys participated in or conducted? _____.
26. What significant problems has your Company found in using the results of the wage surveys? _____.

Please forward samples of any items which you think may be helpful in this research. (Job Analysis Handbook, Job Description or Substantiating Study Sheets, Union Contract, etc.).


CHICAGO METROPOLITAN AREA
THIS AREA, DEFINED BY THE U.S. BUREAU OF THE CENSUS, INCLUDES THE CONTIGUOUS INDUSTRIALLY IMPORTANT COUNTIES SURROUNDING THE CITY OF CHICAGO.
IT INCLUDES THE COUNTIES OF COOK, DU PAGE, KANE, LAKE, WILL IN ILLINOIS, AND LAKE COUNTY IN INDIANA.
THIS IS THE AREA INCLUDED BY THE CHICAGO ASSOCIATION OF COMMERCE AND INDUSTRY IN THE ACTIVITIES OF ITS INDUSTRIAL DEVELOPMENT DIVISION.
PREPARED BY:
THE BUSINESS RESEARCH & STATISTICS DIVISION, THE CHICAGO ASSOCIATION OF COMMERCE & INDUSTRY
8-5-58
SCALE OF MILES
0 5 10
LAKE COUNTY
KANE COUNTY
DU PAGE COUNTY
COOK COUNTY
WILL COUNTY
LAKE MICHIGAN
CHICAGO
ILLINOIS
INDIANA
ANTIOCH
WINTHROP HARBOR
ZION
LAKE VILLA
ROUND LAKE BEACH
ROUND LAKE PARK
ROUND LAKE
GRAYS LAKE
GURNEE
WAUKEGAN
HAINESVILLE
NORTH CHICAGO
MUNDELEIN
LIBERTYVILLE
LAKE BLUFF
LAKE FOREST
WAUCONDA
LAKE ZURICH
BANNOCKBURN
HIGHWOOD
HIGHLAND PARK
DEERFIELD
BARRINGTON
WHEELING
NORTHBROOK
GLENCOE
WINNETKA
NORTHFIELD
KENILWORTH
WILMETTE
PALATINE
ARLINGTON HEIGHTS
ROLLING MEADOWS
GLENVIEW
MORTON GROVE
SKOKIE
EVANSTON
MOUNT PROSPECT
DES PLAINES
NILES
LINCOLNWOOD
ELK GROVE
PARK RIDGE
O'HARE FIELD
SCHILLER PARK
BARTLETT
ROSELLE
ITASCA
WOOD DALE
BLOOMINGDALE
BENSENVILLE
ADDISON
FRANKLIN PARK
ELMWOOD
OAK PARK
MELROSE PARK
RIVER FOREST
ELMHURST
BELLWOOD
VILLA PARK
HILLSIDE
BERKELEY
WESTCHESTER
BROADVIEW
CICERO
WESTERN SPRINGS
LA GRANGE
LYONS
STICKNEY
BERWYN
MCCOOK
SUMMIT
HODGKINS
BEDFORD PARK
JUSTICE
SPRING FOREST
CHICAGO RIDGE
OAK LAWN
EVERGREEN PARK
WORTH
PALOS PARK
ALSIP
BLUE ISLAND
CALUMET
WHITING
EAST CHICAGO
CRESTWOOD
RIVERDALE
ORLAND PARK
MIDLOTHIAN
HARVEY
DOLTON
CALUMET CITY
OAK FOREST
MARKHAM
SOUTH HOLLAND
HAMMOND
GARY
TINLEY PARK
HAZELCREST
THORNTON
LANSING
EAST GARY
HOMEWOOD
GLENWOOD
HIGHLAND
MOKENA
FLOSSMOOR
MUNSTER
HOBART
OLYMPIA FIELDS
CHICAGO HEIGHTS
GRIFFITH
FRANKFORT
MATTESON
DYER
SCHERERVILLE
RICHTON PARK
PARK FOREST
SOUTH CHICAGO HEIGHTS
STEGER
CRETE
ST. JOHN
MONEE
MANHATTAN
CROWN POINT
ELWOOD
BEECHER
PEOTONE
WILMINGTON
BRAIDWOOD
ST. CHARLES
ELBURN
GENEVA
BATAVIA
NORTH AURORA
AURORA
NAPERVILLE
DOWNERS GROVE
WEST CHICAGO
LOMBARD
WHEATON
GLEN ELLYN
WINFIELD
CARPENTERSVILLE
WEST DUNDEE
EAST DUNDEE
HAMPSHIRE
ELGIN
SOUTH ELGIN
PLAINFIELD
LOCKPORT
JOLIET
NEW LENOX

APPENDIX III

PRINCIPAL PRODUCT CLASSIFICATIONS OF THE FORTY-TWO COMPANIES HAVING A FORMAL FACTORY-TYPE JOB EVALUATION SYSTEM

Product Classifications	Company Occurrence
Miscellaneous Chemical Products	1
Miscellaneous Plastic Products	3
Miscellaneous Textiles	1
Miscellaneous Furniture & Fixtures	1
Miscellaneous Products of Petroleum and Coal	1
Miscellaneous Electrical Machinery, Equipment, and Supplies	5
Miscellaneous Fabricated Metal Products	9
Miscellaneous Machinery	1
Pens, Pencils, Office and Artist Materials	1
Electric Lighting and Wiring Equipment	1
Iron and Steel Products	2
Paperboard Containers and Boxes	5
Heating and Plumbing Equipment (Not Electrical)	2
Photographic Equipment and Supplies	1
Rolling, Drawing and Extruding of Nonferrous Metals	1
Household Furniture	1
Abrasive, Asbestos, and Miscellaneous Nonmetallic Mineral Products	2
Special Industrial Machinery	6
General Industrial Machinery and Equipment	2
Canned and Preserved Foods and Seasonings	1

Product Classifications	Company Occurrence
Blast Furnaces, Steel Works, Rolling and Finishing Mills	10
Service Industry Machines	1
Metal Cans	9
Fabricated Wire Products	1
Cements	1
Industrial Inorganic and Organic Chemicals	1
Paint, Varnish, Lacquer, Enamel, etc.	1
Fabricated Rubber Products	2
Fabricated Structure Metal Products	6
Radio and Television Sets	7
Communication Equipment	2
Household Appliances	3
Coating, Plating, Engraving, Anodizing and Other Metal Finishes	6
Electrical Industrial Apparatus	3
Electronic Components and Accessories	5
Farm Machinery and Equipment	1
Construction, Mining and Materials Handling Machinery and Equipment	8
Office Computing and Accounting Machines	2
Forgings and Miscellaneous Primary Metal Industries	2
Motor Vehicles, Equipment and Parts	1
Aircraft and Parts	1

Product Classifications	Company Occurrence
Engineering, Laboratory, Scientific and Research Instruments and Equipment	1
Metal Stampings	4
Engines and Turbines	1
Glass and Glassware Pressed or Blown	2
Nonferrous Foundries	1
Electric Transmission and Distribution Equipment	1

NOTE: The directory, Directory of Employees in the Chicago Metropolitan Area, lists more than one principal product classification for some of the companies.

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APPROVAL SHEET

The thesis submitted by Frank J. Baleno, Jr. has been read and approved by three members of the faculty of the Institute of Social and Industrial Relations.

The final copies have been examined by the director of the thesis and the signature which appears below verifys the fact that any necessary changes have been incorporated and that the thesis is now given in final approval with reference to content, form, and mechanical accuracy.

The thesis is therefore accepted in partial fulfillment of the requirements for the Degree of Master of Social and Industrial Relations.

January 25, 1961
Date

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Signature of Advisor